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L2: Entry 3 of 11

File: USPT

Jan 29, 2002

US-PAT-NO: 6342390

DOCUMENT-IDENTIFIER: US 6342390 B1

TITLE: Lipid vesicles containing adeno-associated virus rep protein for transgene integration and gene therapy

DATE-ISSUED: January 29, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Wiener; Stephen M.	Bethesda	MD		
Chiorini; John A.	Silver Spring	MD		
Safer; Brian	Silver Spring	MD		
Kotin; Robert M.	Rockville	MD		
Weitzman; Matthew D.	La Jolla	CA		
Owens; Roland A.	Arlington	VA		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE	CODE
The United States of America as represented by the Secretary of Health and Human Services Human Services						

APPL-NO: 8/ 344729 [PALM]

DATE FILED: November 23, 1994

INT-CL: [7] C12 N 15/00

US-CL-ISSUED: 435/325; 435/320.1, 435/372.3, 435/455, 435/458, 514/2, 514/44, 424/93.1, 424/93.21, 530/350

US-CL-CURRENT: 435/325; 424/93.1, 424/93.21, 435/320.1, 435/372.3, 435/455, 435/458, 514/2, 514/44, 530/350

FIELD-OF-SEARCH: 435/320.1, 435/172.3, 435/240.1, 435/240.2, 435/240.25, 435/455, 435/458, 435/325-372.3, 424/93.1, 424/93.21, 514/44, 514/2, 530/350

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

☐ Search Selected☐ Search ALL

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<u>5139941</u>	August 1992	Muzyczka et al.	435/455
<u>5354678</u>	October 1994	Lebkowski et al.	435/455
<u>5436146</u>	July 1995	Shenk et al.	435/172.3
<u>5474935</u>	December 1995	Chatterjee et al.	435/320.1
<u>5587308</u>	December 1996	Carter et al.	435/371
<u>5658785</u>	August 1997	Johnson	435/367
<u>5861314</u>	January 1999	Philip et al.	435/372.3

FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
9324641	December 1993	WOX	
WO 94/28157	December 1994	WOX	
9507995	March 1995	WOX	
WO 95/13365	May 1995	WOX	
WO 95/13392	May 1995	WOX	
WO 95/14771	June 1995	WOX	

OTHER PUBLICATIONS

Marshall, Science, 269, 1995, 1050-1055.*
 Kotin, Hum. Gene Ther., 5, 1994, 793-801.*
 Xiao et al., Adv. Drug. Del. Reviews, 12, 1994, 201-215.*
 Page et al., J. Cell. Biochem., 18A, 1994, 228.*
 Nahreini et al., Gene, 119, 1992, 265-272.*
 Weitzman et al., PNAS, 91, 1994, 5808-5812.*
 Srivastava et al., PNAS, 86, 1989, 8078-8082.*
 Chiorini et al., J. Virology, 68, 1994, 797-804.*
 Philip et al., Mol. and Cell. Biol., 14(4), 1994, 2411-2418.*
 Kotin et al., EMBO J., 11(13), p. 5071-5078, 1992.*
 Hermonat et al., Proc. Nat. Acad. Sci., 81:6466-6470, 1984.*
 McLaughlin, et al., J. Virology, 62(6):1963-1973, 1988.*
 Wang et al., J. Virology, vol. 68, No. 8, pp. 4847-4856, 1994.*
 Im, et al., Cell, vol. 61, pp. 447-457 (May 4, 1990).
 Ghosh, et al., "Targeting of Liposomes to Hepatocytes" in Liver Disease, Wu, et al., eds, Marcel Dekker, Inc., New York, pp. 97-103 (1991).
 Snyder, et al., J. Virol., vol. 67, No. 10, pp. 6096-6104 (Oct. 1993).
 Chiorini, et al., J. Virol., vol. 68, No. 2, pp. 797-804 (Feb. 1994).
 Philip, et al., Mol. Cell. Biol., vol. 14, No. 4, pp. 2411-2418 (Apr. 1994).
 Chiorini, et al., J. Virol., vol. 68, No. 11, pp. 7448-7457 (Nov. 1994).

ART-UNIT: 1633

PRIMARY-EXAMINER: Nguyen; Dave T.

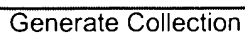
ATTY-AGENT-FIRM: Leydig, Voit, & Mayer, Ltd.

ABSTRACT:

A composition for delivering at least one DNA sequence encoding a desired protein or polypeptide (such as a therapeutic agent) to a cell. The composition comprises an adeno-associated virus rep protein (or a nucleic acid sequence encoding an adeno-associated virus rep protein) and a genetic construct including at least one DNA sequence encoding a protein or polypeptide or genetic transcript of interest and a promoter controlling the at least one DNA sequence. The genetic construct also includes a first adeno-associated virus ITR or protein or derivative thereof and a second adeno-associated virus ITR or a portion or derivative thereof. The first and second adeno-associated virus ITRs or portions or derivatives thereof flank the at least one DNA sequence encoding the protein or polypeptide or genetic transcript of

interest and the promoter controlling the at least one DNA sequence encoding the protein or polypeptide or genetic transcript of interest. Such a composition provides for integration of genetic material at a specific locus in the human chromosome, while minimizing the possibility of inadvertent inactivation of host genes and minimizing the possibility of viral contamination.

18 Claims, 18 Drawing figures

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L2: Entry 3 of 11

File: USPT

Jan 29, 2002

DOCUMENT-IDENTIFIER: US 6342390 B1

TITLE: Lipid vesicles containing adeno-associated virus rep protein for transgene integration and gene therapy

Detailed Description Paragraph Left (5):Ex vivo treatment of Hemophilia B Using an AAV Vector for Human Factor IXDetailed Description Paragraph Type 0 (1):5'--AAV ITR--RSV Promoter--Human Factor IX gene--Poly A--AAV ITR--3'

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L2: Entry 4 of 11

File: USPT

Jan 1, 2002

DOCUMENT-IDENTIFIER: US 6335011 B1

TITLE: Methods for delivering DNA to muscle cells using recombinant adeno-associated virus virions to treat lysosomal storage disease

Other Reference Publication (37):Snyder et al., "Persistent and Therapeutic Concentrations of Human Factor IX in Mice After Hepatic Gene Transfer of Recobinant AAV Vectors," Nature Genetics 16:270-276 (1997).

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Search Results - Record(s) 1 through 10 of 21 returned.☒ 1. Document ID: US 20020037867 A1

L2: Entry 1 of 21

File: PGPB

Mar 28, 2002

PGPUB-DOCUMENT-NUMBER: 20020037867

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020037867 A1

TITLE: METHOD FOR RECOMBINANT ADENO-ASSOCIATED VIRUS-DIRECTED GENE THERAPY

PUBLICATION-DATE: March 28, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
WILSON, JAMES M.	GLADWYNE	PA	US	
FISHER, KRISHNA J.	NEW ORLEANS	LA	US	

US-CL-CURRENT: 514/44; 435/320.1, 435/455, 435/456, 435/457, 435/69.1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	PMC	Draw Desc	Image
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☒ 2. Document ID: US 20020037836 A1

L2: Entry 2 of 21

File: PGPB

Mar 28, 2002

PGPUB-DOCUMENT-NUMBER: 20020037836

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020037836 A1

TITLE: Use of GLP for the treatment, prevention, diagnosis, and prognosis of bone-related and nutrition-related disorders

PUBLICATION-DATE: March 28, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Henriksen, Dennis Bang	Alleroed		DK	

US-CL-CURRENT: 514/2; 424/617, 514/102, 514/171, 514/28

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	PMC	Draw Desc	Image
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☒ 3. Document ID: US 20020012997 A1

L2: Entry 3 of 21

File: PGPB

Jan 31, 2002

PGPUB-DOCUMENT-NUMBER: 20020012997

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020012997 A1

TITLE: Lipid vesicles containing adeno-associated virus Rep protein for transgene integration and gene therapy

PUBLICATION-DATE: January 31, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Kotin, Robert M.	Bethesda	MD	US	
Safer, Brian	Silver Spring	MD	US	
Chiorini, John A.	Silver Spring	MD	US	
Weitzman, Matthew D.	La Jolla	CA	US	
Owens, Roland A.	Arlington	VA	US	
Wiener, Stephen M.	Boston	MA	US	

US-CL-CURRENT: 435/456; 424/93.21

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	Form	Draw Desc	Image
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☒ 4. Document ID: US 20010006955 A1

L2: Entry 4 of 21

File: PGPB

Jul 5, 2001

PGPUB-DOCUMENT-NUMBER: 20010006955

PGPUB-FILING-TYPE: new-utility

DOCUMENT-IDENTIFIER: US 20010006955 A1

TITLE: Method for recombinant adeno-associated virus-directed gene therapy

PUBLICATION-DATE: July 5, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Wilson, James M.	Gladwyne	PA	US	
Fisher, Krishna J.	New Orleans	LA	US	

US-CL-CURRENT: 514/44; 424/93.21

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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Form	Draw Desc	Image
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☒ 5. Document ID: US 6342390 B1

L2: Entry 5 of 21

File: USPT

Jan 29, 2002

US-PAT-NO: 6342390

DOCUMENT-IDENTIFIER: US 6342390 B1

TITLE: Lipid vesicles containing adeno-associated virus rep protein for transgene integration and gene therapy

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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Form	Draw Desc	Image
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☒ 6. Document ID: US 6335011 B1

L2: Entry 6 of 21

File: USPT

Jan 1, 2002

US-PAT-NO: 6335011

DOCUMENT-IDENTIFIER: US 6335011 B1

TITLE: Methods for delivering DNA to muscle cells using recombinant adeno-associated virus virions to treat lysosomal storage disease

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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Full	Draw Desc	Image
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☒ 7. Document ID: US 6325998 B1

L2: Entry 7 of 21

File: USPT

Dec 4, 2001

US-PAT-NO: 6325998

DOCUMENT-IDENTIFIER: US 6325998 B1

TITLE: Methods of treating disease using recombinant adeno-associated virus virions administered to muscle

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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Full	Draw Desc	Image
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☒ 8. Document ID: US 6309634 B1

L2: Entry 8 of 21

File: USPT

Oct 30, 2001

US-PAT-NO: 6309634

DOCUMENT-IDENTIFIER: US 6309634 B1

TITLE: Methods of treating Parkinson's disease using recombinant adeno-associated vector (rAAV)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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Full	Draw Desc	Image
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☒ 9. Document ID: US 6281200 B1

L2: Entry 9 of 21

File: USPT

Aug 28, 2001

US-PAT-NO: 6281200

DOCUMENT-IDENTIFIER: US 6281200 B1

TITLE: Functional characterization of the C-C chemokine-like molecules encoded by mollusum contagiosum virus types 1 and 2

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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Full	Draw Desc	Image
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☒ 10. Document ID: US 6268213 B1

L2: Entry 10 of 21

File: USPT

Jul 31, 2001

US-PAT-NO: 6268213

DOCUMENT-IDENTIFIER: US 6268213 B1

TITLE: Adeno-associated virus vector and cis-acting regulatory and promoter elements

capable of expressing at least one gene and method of using same for gene therapy

Full Title Citation Front Review Classification Date Reference Sequences Attachments

Full Draw Desc Image

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Terms	Documents
L1 near10 (factor adj IX)	21

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